REMARKS/ARGUMENTS

Applicants respectfully request that the amendment filed November 18, 2003, be entered and reconsidered.

Accordingly, claims 53-58 and 67-80 are pending in this application.

The following remarks are provided in light of the Advisory Action mailed January 14, 2004.

I. Objection to New Matter

In the Advisory Action mailed January 14, 2003, the Examiner alleged that "the newly added language 'under conditions to produce one or more cDNAs longer than about 600 nucleotides' and newly added claim 80 raise issues of new matter as there is no support in the specification to support the newly added limitations" (Advisory Action, page 2, section 2). Applicants respectfully disagree for the reasons set forth below.

The present invention provides an improved method for synthesizing cDNA greater than 600 bp in length. The method relies on increasing the processivity of reverse transcriptase by conducting the reverse transcription reaction in the presence of a single-strand binding protein. The general conditions and requirements for reverse transcription reactions are well known and not at issue here. Rather, as Applicants alone teach throughout the specification, the operable conditions for the present invention are those which provide RTase, single-strand binding protein, an appropriate length template, properly spaced primers (if two sets are used) in the presence of the requisite buffer, dNTPs, temperature and reaction time. See for example, page 9, lines 18-20; page 10, lines 17-22; page 11, lines 1-9; page 21, lines 13-18; page 22, lines 14-18; page 23, lines 3-13; page 31, lines 14-22 continuing onto page 32, lines 1-5; page 33, lines 5-21; and Figure 5.

More particularly, the specification provides that the reaction produces cDNA longer than 600 nucleotides. For example, at the paragraph bridging pages 25 and 26, the specification states that "the single-strand binding protein is supplied in any reaction where an RNA molecule is copied into DNA by reverse transcriptase at a concentration sufficient to carry out completed synthesis of templates greater than 600 nucleotides in length." This passage thus states that (1) the reaction is a reverse transcription reaction (conversion of RNA to DNA), (2) that the

conditions include single-strand binding protein (which as Applicants teach is needed to achieve the claimed result), (3) the RNA templates are greater than 600 nucleotides in length (synonymous with longer than 600 nucleotides), and (4) importantly in this context, that completed synthesis of the templates is achieved, *i.e.,* that the cDNA copies of the template must be substantially the same length as the template.

Thus, because synthesis is complete and the template is longer than 600 nucleotides, the cDNA product is also longer than 600 nucleotides. Hence, the phrase questioned by the Examiner is fully supported in the specification and does not present new matter.

With respect to Claim 80, likewise no new matter is presented. The fact that a primer is used in the reaction is fully supported by Applicants' disclosure: "First-strand synthesis is carried out by a reverse transcriptase and directed by a primer or primers that hybridize to the mRNA molecule to be copied. A variety of priming strategies can be used" (page 14, lines 11-20).

The specification further teaches that complete reverse transcription of the mRNA molecules occurs when using a primer. See, for example page 23, lines 14-22 continuing onto page 24, lines 1-5:

> In some embodiments of the present invention, the addition of single-strand binding proteins may be used in combination with strategies for priming first-strand synthesis which, in the absence of the single-strand binding protein, are associated with the loss of information encoded in the original mRNA transcript. For example, if a primer hybridizes to the 3' end of an RNA molecule and the polymerase fails to copy the entire length of the transcript, information encoded at the 5' end of the transcript may be lost. By improving the processivity of the polymerase, more of the sequence information from each individual transcript is maintained. Thus, the information encoded at the 5' ends of all the species in the population, or the 5' complexity, is better preserved when the single-strand binding protein is present. In some embodiments of the present invention, alternative priming strategies may be employed that result in the loss of information encoded at the 3' end of the original transcript. When such priming strategies are used, the addition of the single-strand binding protein preserves the 3' complexity of the population.

Additional support for the reverse transcription of mRNA to produce one or more cDNAs longer than 600 nucleotides and complementary to the transcribed mRNA can be found at the paragraph bridging pages 25 and 26; page 31, lines 14-22 continuing onto page 32, lines 1-5; page 33, lines 5-21; and Figure 5. Accordingly, Claim 80 is also supported by the specification and no new matter is present.

II. Conclusion

Applicants believe that all of the outstanding rejections of record have been overcome by amendment and/or argument. Accordingly, the claims are now believed to be in condition for allowance. Applicants respectfully request that the Examiner issue a timely Notice of Allowance.

Applicants enclose herewith a Petition requesting a one-month extension of time. Please apply the fee for the one-month extension of time, pursuant to 37 C.F.R. § 1.17(a)(1), of $55.00, and the fee related to the Request for Continued Examination, pursuant to 37 C.F.R. § 1.17(e), of $385.00 to our Deposit Account No. 08-0219. If any additional fees are due, please charge any payments due or credit any overpayments to our Deposit Account No. 08-0219.

The Examiner is invited to telephone the undersigned at the telephone number given below in order to expedite the prosecution of the instant application.

Respectfully submitted,

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